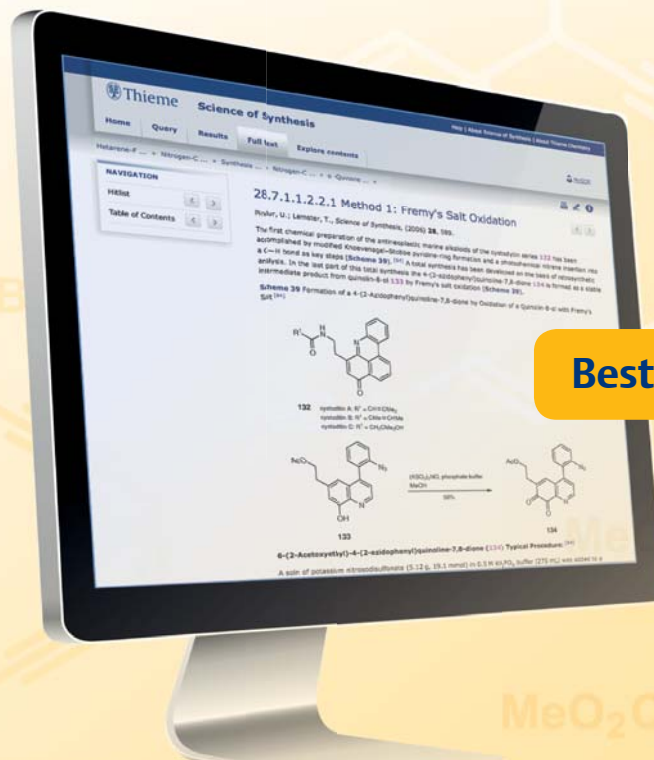


Science of Synthesis

Quick Start Guide



Best methods. Best results.



Home

Navigation

Home: General information and news

Query: Search SoS

Results: Hitlist of search results

Full text: Descriptions of transformations with experimental procedures

Explore contents: Overview of all transformations by functional group

Start a search

Thieme Science of Synthesis

Home Query Results Full text Explore contents

MySoS

Welcome to SOS 4.0!

- New Interface and Product Design
- Enriched Text Search Functionality
- Enhanced Structure/Reaction Searching and Retrieval
- New Content: Special Topics and Updates

ABOUT SOS

- Series Preface
- Editorial Guidelines
- Editorial Board
- Editors/Authors

RELEASE INFORMATION

- What's New?
- Technical Requirements

TRAINING & SUPPORT

- Quick Start Guide
- Video Tutorials
- Ranking of Results

CONTACT US

- E-Mail

Best methods. Best results.

Science of Synthesis provides a **critical review of synthetic methodology** developed to-date in the fields of organic and organometallic chemistry. Features include:

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- Community of over 1,000 experts involved in the review and updating of methods
- Logical organization of the synthetic methods for each functional group
- Intuitive search functions to allow rapid lead generation and route optimization

Hello Thieme Colleagues. Welcome to Science of Synthesis (Version 4)!

Start here

Want to use the previous

NEWS

- C-1 Building Blocks in Organic Synthesis: Workbench Edition Out Now!**
The two-volume set on C-1 Building Blocks in ...
Read more...
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The two volumes „Science of Synthesis: ...
Read more...
- Prof. Barry Trost wins UCD Ulysses Medal**
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Read more...
- Video Interview with Prof. Benjamin List about Asymmetric Organocatalysis**
Benjamin List explains in an

Login to MySoS

Within Science of Synthesis you can register for a MySoS personal account. This allows you to save and load queries as well as manually revise search results and change your personal settings.

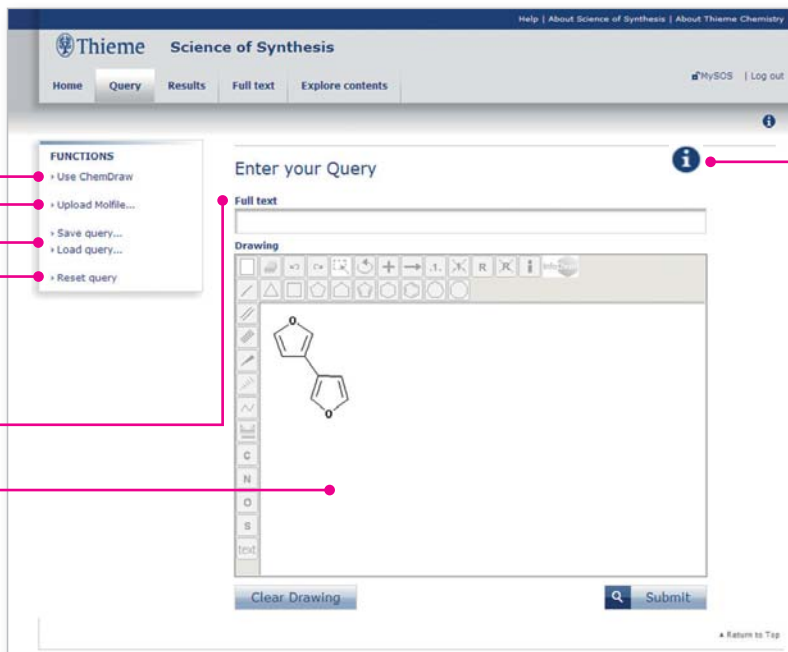
News

To start a search, please go to

sos.thieme.com

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- * Structure search with external drawing tool
 - Upload Molfile
 - Save/load query (only available if logged in to MySoS)
 - Reset query
 - Full-text search
 - * Structure search with Java Applet
- * Structure search available with
- ChemDraw
 - Java Applet
- and combined with a text search.



How to do an advanced search

Enter prefixes for a search by:	Prefix:
Section	section:
Page	page:
Volume	volume:
SOS Contributor	manuscript:
Author	author:
Journal	journal:
Year	year:
Title	title:
CAS Registry Number	cas-rn:
Yield	yield:
Temperature	temperature:
Catalyst	catalyst:
Solvent	solvent:
Name Reactions	namereaction:



Results

Thieme Science of Synthesis

Home Query **Results** Full text Explore contents

MySoS Log out

FILTER/SORT RESULTS

FILTER BY:

- ☒ Reaction Product (3)
- ☒ Reaction Reactant (1)

FILTER BY MATCH TYPE:

- ☒ Substructure Match (3)

SORT HITLIST:

- ☒ By relevance
- ☐ By publication date

[Update](#)

FUNCTIONS

- Update hitlist
- Save hitlist
- Load hitlist
- Select all hits
- Deselect all hits
- Reset all hits

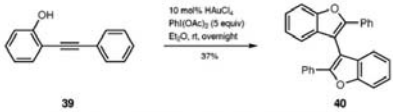
Results

Page: 1 10

☒ 8.1.14.10 Method 10: Benzofuryllithium Compounds
Gribble, G. W., *Science of Synthesis*, (2006) 6, 368.
[Show Reaction](#) [Show Full text](#) [Show TOC](#) [Show Single Step Reactions](#)

☒ Organometallic Complexes of Gold (Update 3, 2011)
3.6.13.1.3.3 Method 3: Cyclization-Homocoupling of 2-Alkynylphenols with (Diacetoxy)iodobenzene
Hopkinson, M. N.; Gouverneur, V., *Science of Synthesis Knowledge Updates*, (2011) 2, 118.
[Show Reaction](#) [Show Full text](#) [Show TOC](#) [Show Single Step Reactions](#)

Reaction Product



☒ 6.1.8.10.2 Variation 2: Preparation of Oligomeric Furans
Periasamy, M.; Seenivasaperumal, M.; Sivakumar, S., *Science of Synthesis*, (2005) 6, 310.
[Show Reaction](#) [Show Full text](#) [Show TOC](#) [Show Single Step Reactions](#)

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Filter results

Sort hitlist

Save/load hitlist
(only available
if logged in
to MySoS)

Select/deselect
all hits

Reset all hits

Select/deselect
a hit

Ranked search
results

Navigate within
hitlist pages

Show reaction
scheme

Show full-text
review

Show context of
method

Show single-step
reactions

Thieme Science of Synthesis

Home Query Results Full text Explore contents

Organometallics > Organometallics > Gold-Catalysis > Gold-Catalysis >

NAVIGATION
Hit 2 of 3
Previous / Next

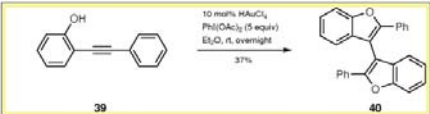
3.6.13.1.3.3 Method 3: Cyclization-Homocoupling of 2-Alkynylphenols with (Diacetoxyiodo)benzene

DOI: 10.1055/sos-SD-103-00054

Hopkinson, M. N.; Gouverneur, V., *Science of Synthesis Knowledge Updates*, (2011) **2**, 118.

A similar gold(III)-catalyzed cascade cyclization-homocoupling protocol can be applied in the synthesis of 3,3'-bibenzofurans directly from 2-alkynylphenols (Scheme 17).^[69] In this case, (diacetoxyiodo)benzene is the most successful oxidant, delivering the dimer 40 in 37% yield from phenol 39 when used with tetrachloroauric acid (10 mol%) in diethyl ether. The low isolated yield of the reaction can be attributed to competitive oxidation of the starting material to quinone derivatives by (diacetoxyiodo)benzene.

Scheme 17 Synthesis of a 3,3'-Bibenzofuran from a 2-Alkynylphenol^[69]



2,2'-Diphenyl-3,3'-bibenzofuran (40); Typical Procedure:^[69]

HAuCl₄ (17.5 mg, 0.05 mmol, 10 mol%) was placed in a predried 20-mL vial equipped with a stirrer bar. Et₂O (10 mL) was added and the mixture was stirred at rt for 5 min. 2-Alkynylphenol 39 (100 mg, 0.5 mmol, 1 equiv) was added, followed, after 5 min, by PhI(OAc)₂ (848 mg, 2.6 mmol, 5 equiv). The mixture was stirred at rt overnight and then filtered and concentrated. The crude product was purified by flash column chromatography (silica gel) or preparative TLC.

References

[69] Jozias, M. G.; Neuburger, M.; Wegner, M. A., *Synlett*, (2010), 2443.

Navigation within hitlist

Show context of method in breadcrumb navigation

References

If available: Related information in the archive

Print page or chapter

Cite this article

Navigation within book



Explore contents

Thieme Science of Synthesis

Home Query Results Full text Explore contents

FUNCTIONS Collapse tree

Explore Contents

- Science of Synthesis
 - Vol. 1: Compounds with Transition Metal-Carbon σ -Bonds and Compounds of Groups 10 - 8 (Ni, Pd, Pt, Co, Rh, Ir, Fe, Ru, Os)
 - Vol. 2: Compounds of Groups 7-3 (Mn, Cr, V, Ti, Sc, La, Ac, ...)
 - Vol. 3: Compounds of Groups 12 and 11 (Zn, Cd, Hg, Cu, Ag, Au)
 - Organometallic Complexes of Zinc
 - Organometallic Complexes of Cadmium
 - Organometallic Complexes of Mercury
 - Organometallic Complexes of Copper
 - Organometallic Complexes of Silver
 - Organometallic Complexes of Gold
 - Unsubstituted Alkylgold(I) and Alkylgold(III) Compounds
 - Organogold Compounds with Substituted Alkyl Ligands
 - Organogold Compounds with Ylide Ligands
 - Organogold Compounds with Alkenyl Ligands
 - Arilgold Compounds
 - Heterocycles as Ligands for Gold(I) and Gold(III) Complexes
 - Carbene Complexes of Gold
 - Alkene and Alkyne π -Complexes of Gold(I)
 - Carbon in Gold Clusters
 - Organometallic Complexes of Gold (Update 1, 2011)
 - Organometallic Complexes of Gold (Update 2, 2011)
 - Organometallic Complexes of Gold (Update 3, 2011)
 - Gold-Catalyzed Coupling Reactions
 - Oxidative Coupling with Gold(III) as a Stoichiometric Oxidant
 - Gold-Catalyzed Cross Coupling with Substrates as Oxidants
 - Gold-Catalyzed Oxidative Homocoupling with External Oxidants
 - Homocoupling of Nonactivated Arenes Using (Diacetoxylido)benzene
 - Synthesis of Dicumannone via Cyclization-Homocoupling Using *tert*-Butyl Hydroperoxide
 - Cyclization-Homocoupling of *p*-Alkylphenols to *p*-Alkylbenzenes**
 - Homocoupling of Propargyl Acetates Using Selectfluor
 - Homocoupling from Stoichiometric Organogold(I) Complexes Using Electrophilic Fluorinating Reagents
 - Gold-Catalyzed Oxidative Cross Coupling with External Oxidants
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 - Vol. 6: Boron Compounds
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 - Compounds with All-Carbon Functions
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Logical organization of content

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Houben-Weyl methods

Archive (these methods have been updated)

Special topics

- Asymmetric Organocatalysis
- Cross-Coupling and Heck-Type Reactions
- Stereoselective Synthesis
- Water in Organic Synthesis
- and further topics

Compound class introduction

Method within the context of a chapter

Science of Synthesis provides a critical review of synthetic methodology developed to-date in the fields of organic and organometallic chemistry.

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